Bridge Site Data General

Region	Made By	Date

Bridge Information

SR	Bridge Name	Control Section	Project No.

Highway Section	Section, Township & Range	Datum

Structure width between curbs ?

Will the structure be widened in a contract subsequent to this contract ? ☐ Yes ☐ No ☐ N/A

Which side and amount ?

Will the roadway under the structure be widened in the future? ☐ Yes ☐ No ☐ N/A

Stage construction requirements? ☐ Yes ☐ No ☐ N/A

Should the additional clearance for off-track railroad maintenance equipment be provided?

Can a pier be placed in the median? ☐ Yes ☐ No ☐ N/A

What are the required falsework or construction opening dimensions ?

Are there detour or shoofly bridge requirements? (If Yes, attach drawings) ☐ Yes ☐ No ☐ N/A

Can the R/W be adjusted to accommodate toe of approach fills? ☐ Yes ☐ No ☐ N/A

What is the required vertical clearance?

What is the available depth for superstructure?

Are overlays planned for a contract subsequent to this contract? ☐ Yes ☐ No ☐ N/A

Can profile be revised to provide greater or less clearance? ☐ Yes ☐ No ☐ N/A

If Yes, which line and how much?

Will bridge be constructed before, with or after approach fill? ☐ Before ☐ With ☐ After ☐ N/A

What are expected foundation conditions?

When can foundation drilling be accomplished?

Is slope protection or riprap required for the bridge end slopes? ☐ Yes ☐ No ☐ N/A

Are sidewalks to be provided? ☐ Yes ☐ No ☐ N/A

If Yes, which side and width?

Will sidewalks carry bicycle traffic? ☐ Yes ☐ No ☐ N/A

Will signs or illumination be attached to the structure? ☐ Yes ☐ No ☐ N/A

Will utility conduits be incorporated in the bridge? ☐ Yes ☐ No ☐ N/A

What do the bridge barriers transition to?

Furnish type and location of existing features within the limits of this project, such as retaining walls, sign support structures, utilities, buildings, powerlines, etc.

Any other data relative to selection of type, including your recommendations?

Attachments

- ☐ Vicinity Map
- ☐ Bridge Site Contour Map
- ☐ Specific Roadway sections at bridge site and approved roadway sections
- ☐ Vertical Profile Data
- ☐ Horizontal Curve Data
- ☐ Superelevation Transition Diagrams
- ☐ Tabulated field surveyed and measured stations, offsets, and elevations of existing roadways
- ☐ Photographs and video tape of structure site, adjacent existing structures and surrounding terrain
- ☐
- ☐

DOT Form 235-002 EF
Revised 1/2000

Bridge Site Date General
Figure 2-A-1

Bridge Site Data Rehabilitation

Region	Made By	Date

Bridge Information

SR	Bridge Name	Control Section	Project No.

Highway Section	Section, Township & Range	Vertical Datum

Existing roadway width, curb to curb _____ Left of ℄ _____ Right of ℄ _____

Proposed roadway width, curb to curb _____ Left of ℄ _____ Right of ℄ _____

Existing wearing surface *(concrete, HMA, HMA w /membrane, MC, epoxy, other)* _____ Thickness _____

Existing drains to be plugged, modified, moved, other? _____

Proposed overlay *(HMA, HMA w /membrane, MC, epoxy)* _____ Thickness _____

Is bridge rail to be modified? ☐ Yes ☐ No

Existing rail type _____

Proposed rail replacement type _____

Will terminal design "F" be required? ☐ Yes ☐ No

Will utilities be placed in the new barrier? ☐ Yes ☐ No

Will the structure be overlayed with or after rail replacement? ☐ With Rail Replacement ☐ After Rail Replacement

Condition of existing expansion joints _____

Existing expansion joints watertight? ☐ Yes ☐ No

	@ curb line	@ ℄ roadway	@ curb line
Measure width of existing expansion joint, normal to skew.	_____ Inch	_____ Inch	_____ Inch

Estimate structure temperature at time of expansion joint measurement _____

Type of existing expansion joint _____

Describe damage, if any, to existing expansion joints _____

Existing Vertical Clearance _____

Proposed Vertical Clearance (at curb lines of traffic barrier) _____

Attachments

☐ Video tape of project

☐ Sketch indicating points at which expansion joint width was measured.

☐ Photographs of existing expansion joints.

☐ Existing deck chloride and delamination data.

☐ Roadway deck elevations at curb lines (10-foot spacing)

DOT Form 235-002A EF
Revised 5/05

Bridge Site Date Rehabilitation
Figure 2-A-2

Bridge Site Data
Stream Crossings

Region	Made By	Date

Bridge Information

SR	Bridge Name	Control Section	Project No.

Highway Section	Section, Township & Range	Datum

Name of Stream	Tributary of

Elevation of W.S. *(@ date of survey)* _____ Stream Velocity *(fps @ date of survey)* _____ Depth of Flow *(@ date of survey)* _____

Max Highwater Elevation _____ @ Date _____

Normal Highwater Elevation _____ @ Date _____

Normal Stage Elevation _____ @ Date _____

Extreme Low Water Elevation _____ @ Date _____

Amount and Character of Drift _____

Streambed Material _____

Datum *(i.e., USC and GS, USGS, etc.)* _____

Manning's "N" Value *(Est.)* _____

Attachments

- ☐ Site Contour Map *(See Sect. 7.02.00 Highway Hydraulic Manual)*
- ☐ Highway Alignment and Profile *(refer to map and profiles)*
- ☐ Streambed: Profile and Cross Sections *(500 ft. upstream and downstream)*
- ☐ Photographs
- ☐ Character of Stream Banks *(i.e., rock, silt, etc.)* / Location of Solid Rock
- ☐ Other Data Relative to Selection of Type and Design of Bridge, Including your Recommendations *(i.e., requirements of riprap, permission of piers in channel, etc.)*

DOT Form 235-001 EF
Revised 3/97

Bridge Site Date Stream Crossing
Figure 2-A-3

Project_____ SR_____ Prelim. Plan by _____ Check by _____ Date_____

PLAN

___Survey Lines and Station Ticks
___Survey Line Intersection Angles
___Survey Line Intersection Stations
___Survey Line Bearings
___Roadway and Median Widths
___Lane and Shoulder Widths
___Sidewalk Width
___Connection/Widening for Guardrail/Barrier
___Profile Grade and Pivot Point
___Roadway Superelevation Rate (if constant)
___Lane Taper and Channelization Data
___Traffic Arrows
___Mileage to Junctions along Mainline
___Back to Back of Pavement Seats
___Span Lengths
___Lengths of Walls next to/ part of Bridge
___Pier Skew Angle
___Bridge Drains, or Inlets off Bridge
___Existing drainage structures
___Existing utilities Type/Size, and Location
___New utilities - Type, Size, and Location
___Luminaires, Junction Boxes, Conduits
___Bridge mounted Signs and Supports
___Contours
___Top of Cut: Toe of Fill
___Bottom of Ditches
___Test Holes (if available)
___Riprap Limits
___Stream Flow Arrow
___R/W Lines and/or Easement Lines
___Points of Minimum Vertical Clearance
___Horizontal Clearance
___Exist. Bridge No. (to be removed, widened)
___Section, Township, Range
___City or Town
___North Arrow
___SR Number
___Bearing of Piers, or note if radial

MISCELLANEOUS

___Structure Type
___Live Loading
___Undercrossing Alignment Profiles/Elevs.
___Superelevation Diagrams
___Curve Data
___Riprap Detail
___Layout Approval Block
___Notes to Region
___Names and Signatures
___Not Included in Bridge Quantities List
___Inspection and Maintenance Access

ELEVATION

___Full Length Reference Elevation Line
___Existing Ground Line x ft. Rt of Survey Line
___End Slope Rate
___Slope Protection
___Pier Stations and Grade Elevations
___Profile Grade Vertical Curves
___BP/Pedestrian Rail
___Barrier/Wall Face Treatment
___Construction/Falsework Openings
___Minimum Vertical Clearances
___Water Surface Elevations and Flow Data
___Riprap
___Seal Vent Elevation
___Datum
___Grade elevations shown are equal to …
___For Embankment details at bridge ends …
___Indicate F, H, or E at abutments and piers

TYPICAL SECTION

___Bridge Roadway Width
___Lane and Shoulder Widths
___Profile Grade and Pivot Point
___Superelevation Rate
___Survey Line
___Overlay Type and Depth
___Barrier Face Treatment
___Limits of Pigmented Sealer
___BP/Pedestrian Rail dimensions
___Stage Construction Lane Orientations
___Locations of Temporary Concrete Barrier
___Closure Pour
___Structure Depth/Prestressed Girder Type
___Conduits/Utilities in bridge
___Substructure Dimensions

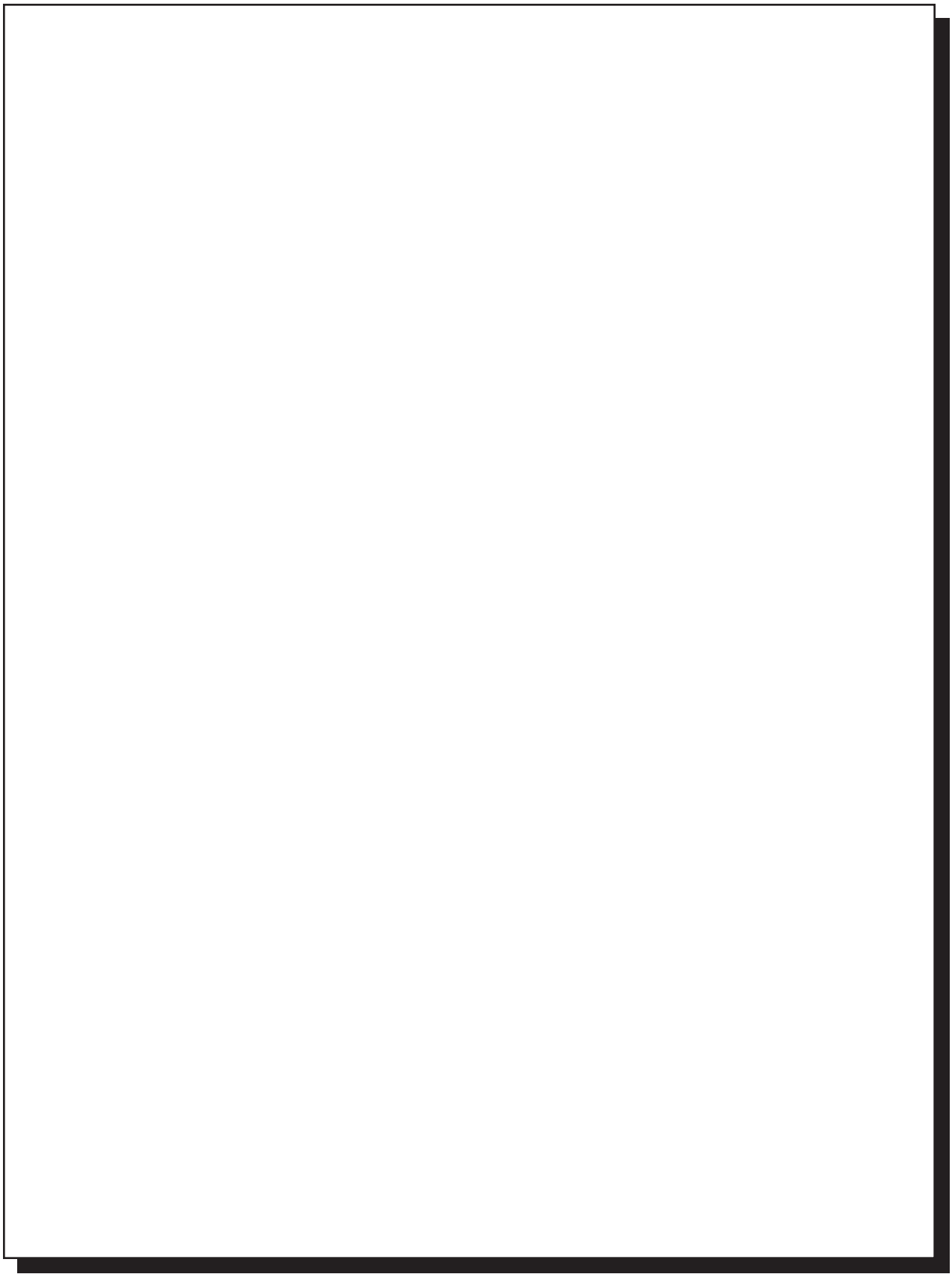
LEFT MARGIN

___Job Number
___Bridge (before/with/after) Approach Fills
___Structure Depth/Prestressed Girder Type
___Deck Protective System
___Coast Guard Permit Status
___Railroad Agreement Status
___Points of Minimum Vertical Clearance
___Cast in Place Concrete Strength

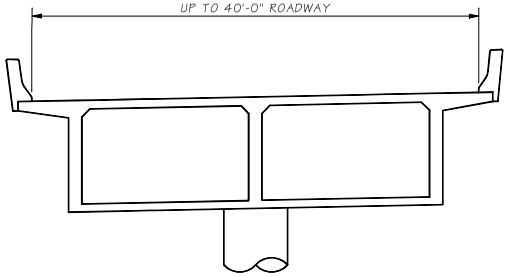
RIGHT MARGIN

___Control Section
___Project Number
___Region
___Highway Section
___SR Number
___Structure Name

Preliminary Plan Checklist
Figure 2-A-4

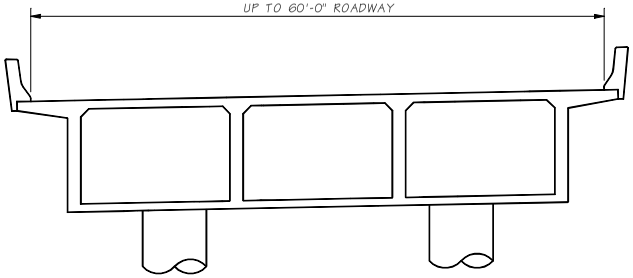


Bridge StageConstruction Comparison
Figure 2-A-5



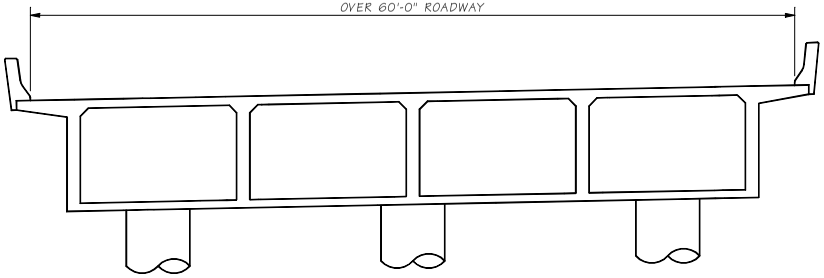
1 COLUMN MINIMUM

PROVIDE COLLISION PROTECTION
OR DESIGN FOR COLLISION LOADS.



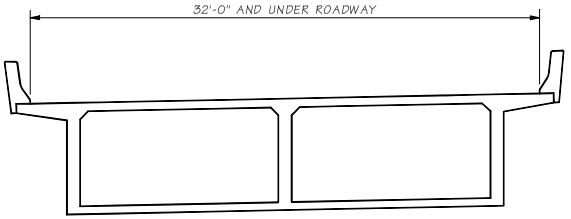
2 COLUMNS MINIMUM

PROVIDE COLLISION PROTECTION
OR DESIGN FOR COLLISION LOADS.

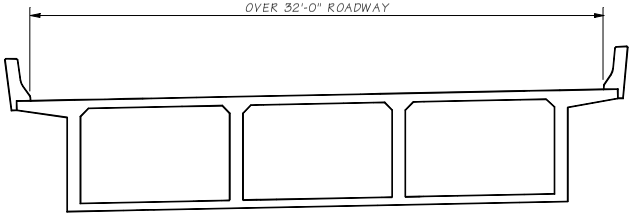


3 COLUMNS MINIMUM

SUBSTRUCTURE DESIGN



3 WEBS MINIMUM



4 WEBS MINIMUM

SUPERSTRUCTURE DESIGN

DESIGN NOTES:

1. USE THE MINIMUM COLUMNS AND WEBS SHOWN TO MEET REDUNDANCY CRITERIA FOR PREVENTING CATASTROPHIC COLLAPSE OF BRIDGES.
2. DRAWINGS ARE SHOWN FOR CONCRETE BOX GIRDERS BRIDGES, BUT THE COLUMN AND WEB REQUIREMENTS ALSO APPLY TO OTHER BRIDGE TYPES.

BRIDGE REDUNDANCY CRITERIA

Figure 2-A-6

	STRUCTURE TYPES	SPAN RANGE, FT.	JULY 2002 COST RANGE $ / FT²
HYDAULIC STRUCTURES	PIPE	1 - 3	15 - 45
	CONCRETE CULVERT	3 - 20	75 - 90
	PLATE ARCH	12 - 20	45 - 60
STRUCTURES FOR CONVENTIONAL SITE CONDITIONS	REINF. CONCRETE SLAB	20 - 60	70 - 110
	REINF. CONCRETE TEE BEAM	30 - 60	70 - 120
	REINF. CONCRETE BOX GIRDER	50 - 140	100 - 150
	POST-TENSIONED CONC. BOX GIRDER	140 - 200	120 - 160
	SEGMENTAL P.T. BOX GIRDER	200 - 700	160 - 200
	PRESTRESSED CONC. SLAB	15 - 80	75 - 95
	PRESTRESSED CONC. DECK BULB TEE	40 - 160	80 - 125
	PRESTRESSED CONC. GIRDER	50 - 180	80 - 140
	PRESTRESSED TRAPEZOIDAL TUB GIRDER	40 - 140	140 - 160
	PRESTRESSED CONCRETE SPLICED GIRDER	140 - 230	100 - 150
	STEEL ROLLED GIRDER	20 - 70	100 - 125
	STEEL PLATE GIRDER	60 - 400	110 - 180
	STEEL BOX GIRDER	60 - 400	150 - 230
	STEEL TRUSS	300 - 1200	200 - 300
	TIMBER	10 - 20	80 - 100
	GLULAM TIMBER	14 - 40	80 - 100
STRUCTURES FOR SPECIAL SITE CONDITIONS	CABLE STAY BRIDGE	600 - 1200	250 - 400
	SUSPENSION BRIDGE	600 - 5000	600 - 850
	FLOATING BRIDGE	600 +	400 - 700
	ARCH BRIDGE	30 - 400	250 - 300
	MOVEABLE SPAN BRIDGE	200 - 350	1100 - 1500
	TUNNEL	30 +	800 - 2000

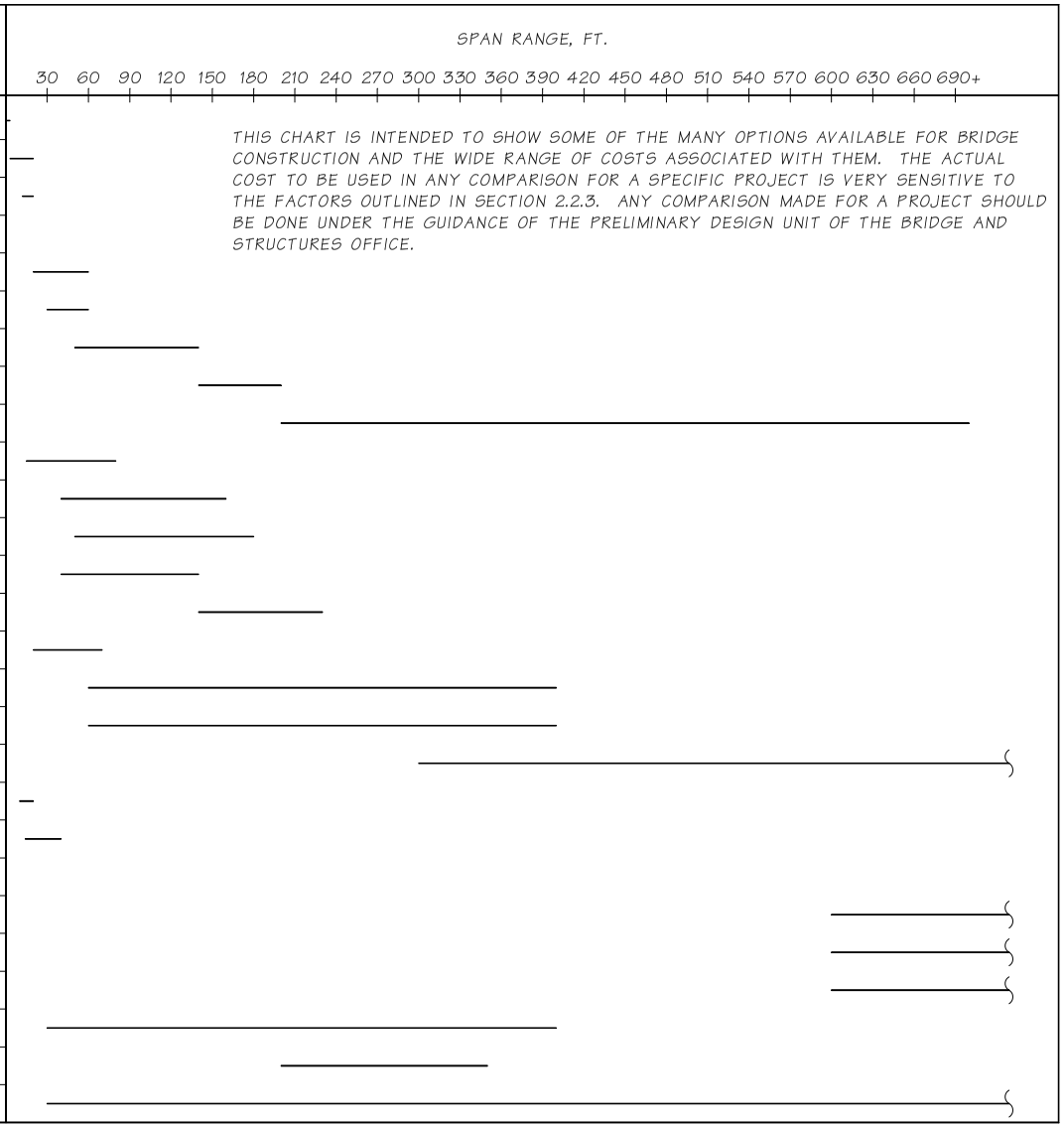
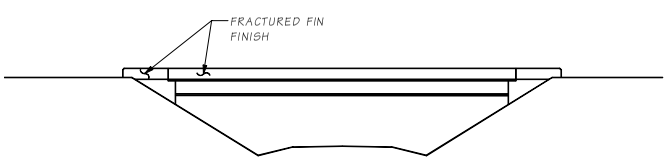
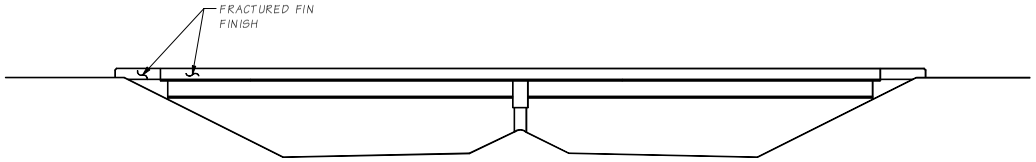


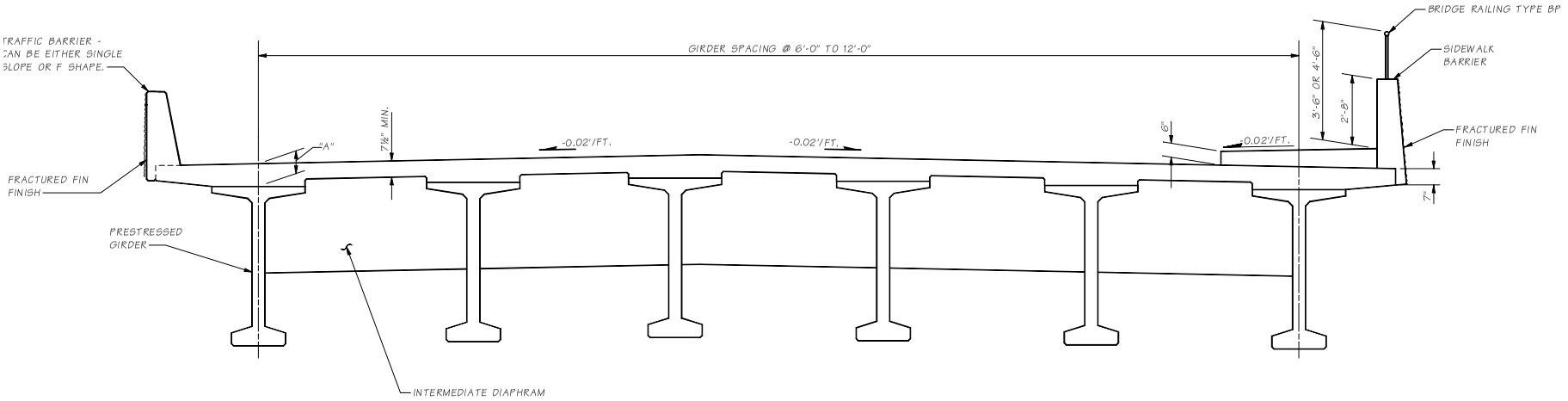
Figure 2-A-7



ELEVATION
SINGLE SPAN BRIDGE



ELEVATION
TWO SPAN BRIDGE



STANDARD SUPERSTRUCTURE ELEMENTS

Figure 2-A-8